Testimony Supporting HB220
House Economic Matters Committee
February 20, 2024

Position: SUPPORT

Dear Chair Wilson and Members of the Committee,

Clean Water Action strongly urges you to pass the Reclaim Renewable Energy Act, HB220, in the 2025 legislative session. As Maryland faces a budget crisis and ambitious climate goals, we cannot afford to keep throwing away the money we have available for renewable, clean energy development on trash incineration. The Reclaim Renewable Energy Act, by eliminating trash incineration from the Renewable Portfolio Standard, will make more funding available for renewable energy development at no cost to the state budget.

Maryland is wasting an increasing amount of money on the RPS, much of it out of state.

Analysis by Public Employees for Environmental Responsibility last year found that between 2012 and 2022, Maryland energy providers spent about **$100 million** subsidizing trash incinerators through Maryland's RPS. If trash incineration remains in the RPS, this waste will get much worse. The analysis projects that unless trash incineration is eliminated from Maryland's RPS, Maryland energy providers will spend an additional **$200 million** subsidizing trash incinerators through Maryland's RPS by 2030, for a **total $300 million wasted**.

Analysis of the last four years of data available from the Public Service Commission shows that the average price per REC from trash incinerators has increased dramatically, wasting more Maryland money on an energy source that does not put clean or renewable energy onto our grid.

	2020 ($7.99/REC)	**2021** ($15.46/REC)	**2022** ($22.96/REC)	**2023** ($24.49/REC)	**Total, 2020-2023**
BRESCO (Baltimore City)	257,366 RECs $2.1 million	319,505 RECs $4.9 million	183,101 RECs $4.2 million	366,929 RECs $8.9 million	**$20 million**
Dickerson (Montgomery County)	295,613 RECs $2.4 million	437,489 RECs $6.8 million	382,233 RECs $8.7 million	295,742 RECs $7.2 million	**$25 million**
ReWorld (Lorton, VA)	882,086 RECs $7.0 million	205,764 RECs $3.2 million	511,045 RECs $11.7 million	329,763 RECs $8.1 million	**$30 million**
Total	1,435,065 RECs **$11.5 million**	962,758 RECs **$14.9 million**	1,076,379 RECs **$24.7 million**	992,434 RECs **$24.3 million**	**$75 million**

Trash incinerators have received an incredible windfall in recent years from Maryland's RPS, while producing no more energy than was on the grid when Maryland created the RPS in 2004, let alone clean and renewable energy.

That windfall is mostly benefiting an out-of-state incinerator in Lorton, VA, which has received 40% of Maryland's RPS subsidies to incineration in this time period, more than either Maryland incinerator. In the past four years, Maryland has wasted $75 million total on subsidizing incineration, money that could have supported real renewable energy.

Eliminating trash incineration from Maryland's Renewable Portfolio Standard will make more money available to support renewable energy, possibly increasing state funding availability.

When Maryland passes the Reclaim Renewable Energy Act, utilities currently using incinerator RECs for compliance with Maryland's RPS will have two choices to replace those incinerator RECs.

Utilities may choose to purchase replacement RECs from any of the Tier 1 energy sources that remain in the Renewable Portfolio Standard, putting the funds currently being wasted subsidizing trash incineration toward those energy sources instead. In the fiscal note for last year's HB166, DLS projected, "Most likely, the State will continue the multi-year trend of growing reliance on wind RECs to meet RPS requirements with negligible impacts on REC prices."

Alternatively, utilities may choose to pay Alternative Compliance Payments into the Strategic Energy Investment Fund. According to §9–20B–05(i), Alternative Compliance Payment revenues from the RPS are required to be used to benefit low-income renewable energy projects. It is not unlikely that utilities may choose to make Alternative Compliance Payments instead of using RECs from remaining Tier 1 sources. As the fiscal note points out, "in 2023, the average price of municipal solid waste RECs was $24.49, the average price of all Tier 1 Nonsolar RECs was $24.61, and the equivalent Alternative Compliance Payment was $30." The Public Service Commission's Renewable Energy Portfolio Standard Report with Data for Calendar Year 2023 says that Alternative Compliance Payments in 2023 "were by far the largest in the history of the RPS, indicating a shift in how electricity suppliers comply with the RPS obligations within Maryland."

If utilities choose to respond to the Reclaim Renewable Energy Act by making Alternative Compliance Payments instead of purchasing RECs from remaining Tier 1 sources, passing the Reclaim Renewable Energy Act will directly increase the funding Maryland has available to support renewable energy development benefiting low-income households, an especially valuable outcome in Maryland's current fiscal constraints. If utilities choose to purchase RECs from other remaining Tier 1 sources, that redirects those funds toward Tier 1 sources and away

from trash incineration, which pollutes the most CO2 per megawatt-hour out of any energy source in the RPS.

Trash incineration pollutes significantly more than other sources of energy.

The Department of Natural Resources' Power Plant Research Program's Final Report Concerning the Maryland Renewable Portfolio Standard analyzed the emissions profile of resources used to meet the Maryland RPS in 2017, including the CO2 emitted per MWh by different eligible categories.

Table 2-8. Emissions Profile of Resources Used to Meet the Maryland RPS, 2017

	Fuel Source	RECs[1] (MWh)	Share	CO_2/ MWh[2]	NOx/ MWh[2]	SO_2/ MWh[2]
TIER 1	Agr. Biomass	345	0.0%	0.000	0.000	0.000
	Black Liquor	1,668,231	18.5	506.736	1.295	7.513
	Geothermal	1,880	0.0	0.000	0.000	0.000
	Hydro	882,114	9.8	0.000	0.000	0.000
	LFG	227,393	2.5	111.173	10.910	0.394
	MSW	732,424	8.1	2,368.188	4.135	0.493
	Biogas	11,284	0.1	55.556	0.000	0.000
	Solar (incl. Solar Thermal)	557,224	6.2	0.000	0.000	0.000
	Wood Waste	491,627	5.4	339.075	1.266	0.220
	Wind	3,002,388	33.3	0.000	0.000	0.000
TIER 2	Hydro	1,450,950	16.1%	0.000	0.000	0.000
	TOTAL	**9,025,860**				
	Weighted Average (Tier 1)			**366.008**	**1.095**	**1.728**
	Weighted Average (Tiers 1 & 2)			**307.170**	**0.919**	**1.451**

[1] ***Source:*** Maryland PSC 2018 ***Renewable Energy Portfolio Standard Report***.

[2] ***Source:*** PJM-GATS.

This analysis shows that the trash incinerators in Maryland's RPS produce the most CO2 per megawatt-hour by far compared to anything else subsidized in the RPS. **The trash incinerators subsidized by Maryland's RPS emitted more than 4 times more CO2 per megawatt-hour than the black liquor sources subsidized at the time**, which the General Assembly wisely already eliminated from the RPS because black liquor is not clean, renewable energy. Neither is trash incineration

The same report also found that "the Maryland RPS has resulted in modest greenhouse gas reductions but may be working at cross-purposes with the state's efforts to reduce nitrogen oxides (NOx) and sulfur dioxide (SO2) emissions." The report credited Maryland's RPS with only "a small role" in PJM-wide CO2 emissions reductions, finding that 2017 CO2 emissions were

only 0.8% lower than they would have been absent Maryland's RPS - with the generous assumption that all retired RECs supported resources that would not have operated otherwise. Trash incineration's outsized CO2 emissions contribute to this lack of emissions reduction. The report also found that **"the SO2 and NOx emissions profiles of Maryland RPS resources, on average, are equal to or slightly higher than net Maryland and net PJM generation since 2010," due in part to "eligibility of black liquor, LFG, and MSW to meet Maryland RPS requirements."** The legislature wisely eliminated black liquor from the RPS in 2021; it is now time to eliminate MSW (municipal solid waste, or trash incineration).

A recent study in the peer-reviewed journal PLOS Climate, "Waste incinerators undermine clean energy goals," came to similar conclusions, demonstrating that "incinerators emit more greenhouse gas emissions per unit of electricity produced (1707 g CO_2e/kWh) than any other power source (range: 2.4 to 991.1 g CO_2e/kWh). They also emit more criteria air pollutants than replacement sources of energy." Figure 1 from this report demonstrates how much more greenhouse-gas-intensive trash incinerators are per unit of electricity produced, compared even to coal.

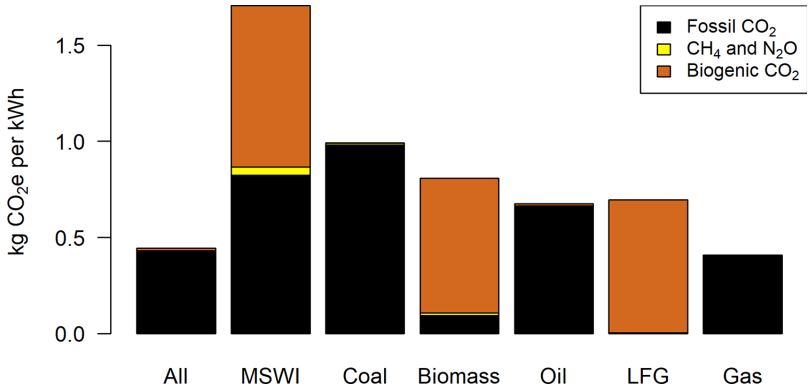

Fig 1. Generation-weighted mean national GHG emissions intensity by major fuel type for electricity. "MSWI" is municipal solid waste incineration, "LFG" is landfill gas, and "Gas" is natural gas.

EPA's 2020 Emissions Inventory reports annual emissions of over 2.5 million tons of CO2 released by the three incinerators subsidized by Maryland's RPS.

Facility	**CO2 Emissions/Year**
BRESCO (Baltimore City)	690,033 tons
Dickerson (Montgomery County)	579,804 tons
ReWorld (Lorton, VA)	1,271,801 tons

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EPA does not consider trash incineration to be a solution to methane emissions from landfills.

Landfill methane emissions are a significant climate concern, and are being addressed through many means: federal regulations, state regulations, and increased organic waste diversion through food waste reduction and food waste and yard waste composting. The decomposition of organic matter like food waste in landfills produces methane because of landfills' anaerobic environment. In its new Wasted Food Scale published this spring, EPA made clear that while there are many solutions to divert food waste from landfills to avoid methane emissions and other impacts, trash incineration is not one of the solutions.

The wasted food scale finds landfilling or incinerating food waste equally unacceptable, not one a solution to the other. The emissions impact of trash incineration must be considered for its own impact, not as a tradeoff to landfills' methane emissions, because incineration is not the only, the best, or even an acceptable alternative to landfilling the waste that causes methane emissions.

Analysis by the Department of Legislative Services and the Department of Natural Resources' Power Plant Research Program demonstrates that this bill will not have negative impacts on ratepayers.

The fiscal note for this legislation explains:

According to PSC's most recent RPS compliance report, approximately 1.0 million municipal solid waste ("waste-to-energy") RECs were retired for compliance in 2023 – approximately 14% of all Tier 1 RECs retired that year. About two-thirds of all municipal solid waste RECs were generated by the two facilities located in the State, with the remaining one-third generated in Virginia. No RECs from refuse-derived fuel facilities were used. The extent to which removing municipal solid waste RECs from RPS eligibility alters overall compliance costs depends on the prices and quantity of replacement RECs, or, if no replacement RECs are available, the difference between municipal solid waste REC prices and the applicable alternative compliance payment (ACP). For context, in 2023, the average price of municipal solid waste RECs was $24.49, the average price of all Tier 1 Nonsolar RECs was $24.61, and the equivalent ACP was $30. ACPs gradually decrease under current law to $22.35 by 2030.
As municipal solid waste RECs are not substantially cheaper than average, and average REC prices are near ACPs, the bill likely has a minimal impact on compliance costs and, by extension, a minimal impact on customer electricity rates. *Therefore, the impact on expenditures on electricity for State and local governments and small businesses is also anticipated to be minimal.*

The Department of Natural Resources' Power Plant Research Program's Final Report Concerning the Maryland Renewable Portfolio Standard provides further detail about how the regional nature of REC markets means that the effect of any individual state's actions is likely to be small. In the chapter, *"Assessment of Potential Changes to the Maryland RPS," the report states:*

"REC availability and pricing equilibrate across all of PJM, reducing the effect of changes on any one state RPS policy." (337)

"Eliminating land-based wind, small hydro or MSW from the Maryland RPS would have limited impact on REC availability because displaced RECs would be absorbed in other states within PJM and replaced by other eligible resources." (337)

"The removal of MSW would have an impact measuring somewhere in between black liquor and the more prevalent RPS eligible resources, including wind, solar, and small hydro. In addition to Maryland, MSW is accepted as a Tier 1 RPS eligible resource in Ohio and Michigan, as a Tier 2 RPS eligible resource in Pennsylvania and New Jersey, and as part of Virginia's and Indiana's voluntary renewable energy goal. However, both Maryland and New Jersey require that the MSW resource be connected with the electric distribution system serving each state, respectively. Although the limited eligibility of MSW among states in PJM could reduce the ability to transfer MSW RECs (albeit to a lesser extent

than black liquor), ***the effect of removing MSW from Maryland RPS eligibility is still likely to be small****. MSW makes up a smaller share of Maryland's REC retirements (8.9% of all RECs in 2018) and overall PJM-GATS certified renewable generation (1.2% in 2018) than black liquor. MSW also has greater potential to serve RPS requirements in other states than black liquor." (344)*

"Meeting Current and Future Targets ***After Excluding Resources****: The above characterization of the PJM market is consistent with the interim report, which indicates that Maryland can meet, or come very close to meeting, its current and future RPS requirements, both at the previously applicable 25% by 2020 level and at the 50% by 2030 level." (344)*

Additionally, the report explains that Alternative Compliance Payments provide a cap on how high REC prices will go, limiting any possible impact on ratepayers:

"States may require LSEs to pay an ACP for each REC that it is short of its RPS requirement during a given compliance period. Funds generated from the ACP can be used for a variety of purposes, such as providing grants and loans for the development of renewable energy resources. ***The ACP operates as a de facto ceiling for REC prices****. That is, LSEs are willing to purchase or create RECs up to the point that REC costs exceed the ACP." (58)*

Conclusion

Trash is not a renewable resource, as it consists of organic waste that could be composted, plastic waste made from fossil fuels, and other materials made of finite resources. Energy created from trash is not renewable energy, and subsidizing energy production from trash incineration withholds subsidies from the truly renewable, emissions-free energy that we need.

Please pass the Reclaim Renewable Energy Act and invest more of Maryland's money in the truly renewable energy that we actually need to fight climate change, drive down emissions long-term, and create a healthier environment.

Thank you,

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